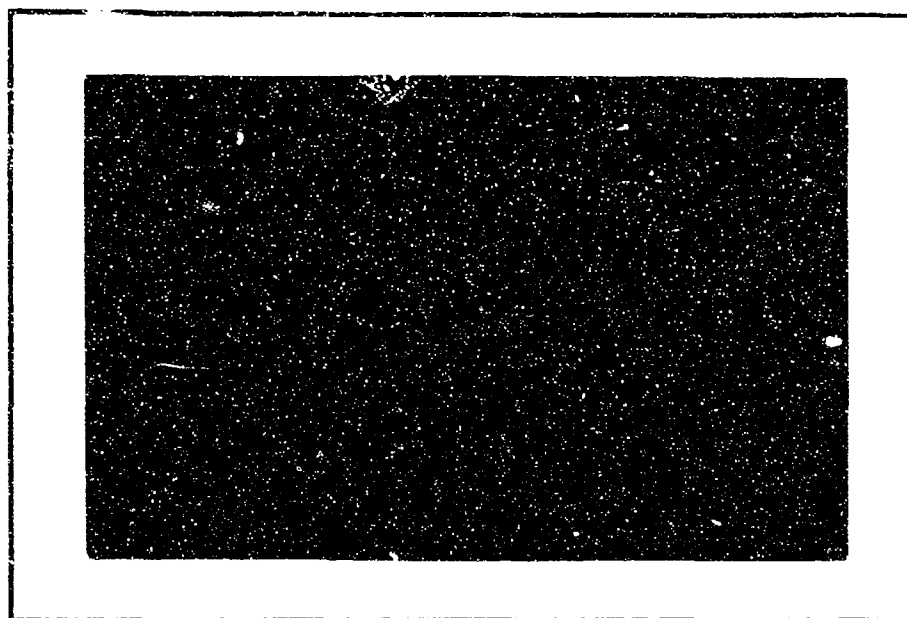


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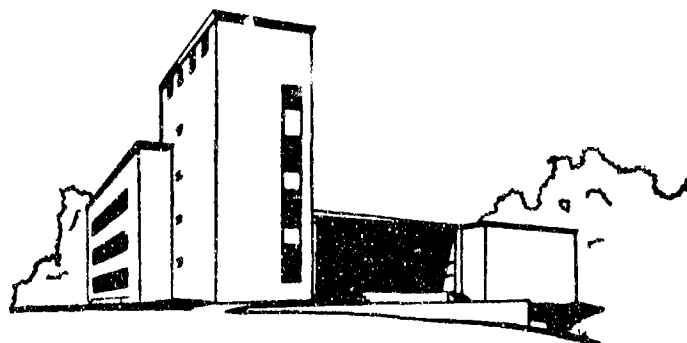


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PITTSBURGH, PENNSYLVANIA 15213

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Management Sciences Research Report No. 144

ORGANIZATIONAL ARCHETYPES

OF A

MULTI-NATIONAL COMPANY

by

David Rutenberg *

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* Carnegie-Mellon University

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Management Sciences Research Group
Carnegie-Mellon University
Graduate School of Industrial Administration
Pittsburgh, Pennsylvania 15213

Abstract

Plans should be formulated with an eye to the organization that will implement the results. This assertion seems especially true for multi-national companies, which consist of a headquarters with subsidiaries around the globe. Although a subsidiary is under the legal jurisdiction of its host government, it is controlled by the multi-national headquarters. Four archetypes of the relationship between the headquarters and subsidiaries are presented. The seminal ideas of Perlmutter have been advanced by links to Leavitt (executive-workers), Churchman and Schainblatt (O.R. analyst-manager), and Gulick (bases for decentralization).

		Formal Recognition of national differences Indirect intervention by headquarters? Headquarters understands subsidiaries?	
		NO	YES
Centralized worldwide control?		<u>Archetype 1</u>	<u>Archetype 2</u>
		polycentric-ethnocentric	geocentric-ethnocentric
		no intervention	manipulation
		separate function	persuasion
Direct intervention by Headquarters?	NO	international division organization	geographical organization
Subsidiaries urged to understand headquarters?	YES	<u>Archetype 3</u>	<u>Archetype 4</u>
		ethnocentric-xenophobic	geocentric-geocentric
		authority	collaboration
		communication	mutual understanding
		product or functional organization	four dimensional organization

Each archetype is illustrated by problem formulations for pricing, product design, management succession, and sources of additional equity.

Introduction

All nations of the world lie within the possible sphere of operation of a multi-national company. Such a company does more than import and export from its U.S. home factory. It may do research in Israel, engineering in Japan, and then manufacture in Taiwan, India and Mexico to supply a hundred national markets, including its U.S. home market. Some already move products, managers, capital and research around the world adjusting the flow to changing local environments. It is hypothesized that over the next decade a few multi-national companies will, in the attitude of their management, cut loose even from one home nation. The most visible symbol of this unshackling will be that companies will move their legal headquarters to whichever nation imposes the fewest constraints, much as most large U.S. companies incorporate in the state of Delaware. The ideal is to be rational on a global scale so as to maximize the long run welfare of the entire worldwide company. It is to reconcile sufficient standardization to achieve control with adaptation to take advantage of local environments.

Subsidiaries of multi-national companies are not run in ways that automatically coincide with the goals of a host government. The headquarters of a multi-national company generally has a longer time horizon than does a central bank struggling for foreign exchange, a treasury collecting taxes this year, or a political leader in power now. Furthermore, subsidiaries of multi-national companies can evade the indirect authority of a national economic planning agency for they do not need to rely on national banks.

The unease manifested in nationalism has deep roots. A subsidiary of a multi-national company affects the citizens of the nation in which it

operates. Whenever decisions affecting citizens are made outside their nation, the sovereignty of that nation has been impaired. In his report to the Privy Council of the Government of Canada, Watkins (1968, p. 297) is emphatic that:

To the extent that parent firms or their governments effectively run the multi-national firm to suit the private and public interests of the foreign state, then the national independence of the host country is threatened. To the extent that the government of the host country can effectively apply policy that makes foreign firms behave like "good corporate citizens" it can increase the benefits and decrease the costs from foreign ownership and limit the erosion of national independence that results from the absence of policy.

The host government has no diplomatic channels through which it can communicate directly with the multi-national headquarters. The subsidiary, over which they both have jurisdiction, becomes a buffer between them. Despite this buffer, the host government must be able to predict the subsidiary's response to its legislation, and so it must understand how multi-national headquarters makes decisions about subsidiaries. Patterns of decision making differ between companies and four archetypal relationships will be presented.

In the first archetypal relationship there is little interaction between headquarters and its subsidiaries. The headquarters behaves like a holding company with a geographically diversified portfolio of subsidiaries. The headquarters' formal organization may be that of an international division; the subsidiaries may be bound by a formal charter which allocates certain marketing subsidiaries to certain production subsidiaries. Likely there will be rhetoric about the virtues of management by exception. However, exceptions will rarely be brought to headquarters' attention -- a subsidiary that triggers headquarters intervention sacrifices its autonomy. The host government can exert great control over such a subsidiary by applying pressure steadily

rather than suddenly, and by helping the subsidiary prove to headquarters that it operates in an uncomprehensibly different environment.

In a second archetypal relationship the headquarters is organized on a geographical basis, rather like the U.S. State Department, with national desks manned by contact officers. A headquarters contact officer is supposed to understand his subsidiary well enough to manipulate it in the interests of the headquarters. Of course, if the host government can co-opt him by bestowing on him honors and also a deluge of information, then in headquarters he will tend to identify himself with the subsidiary and its interests.

Some multi-national companies are organized along product and functional lines. As will be shown in Archetype 3 of this paper, there will be a strong pressure for corporate standardization around the world; this makes plans, evaluations, and promotions easier. The host government can impose its will on its subsidiary by shattering this standard with an abrupt change in national law. Of course, it must anticipate the response of massive diplomatic pressure from the government of the headquarters nation.

As global standardization is shattered, the advantages of adapting to each national environment becomes accepted and a fourth archetype emerges. Some companies convert from a product to geographical structure, and then back in an attempt to have the best of both. Aspects of geography, function, product, and planning horizon have to be fused. The final symbol of this fusing occurs when the company severs its roots from any one nation, and views the world as its oyster. It's very responsiveness to changes in government policy in any of its nations makes it a wily partner.

Even within one multi-national company there are differences between subsidiaries. Some are large but others are small. Some are in industrialized nations while others are in underdeveloped ones. Some have developed a depth of competent local management, while others have not done so. To further complicate generalizations Lovell (1966, p. 141) asserts that the domains of responsibility between a headquarters and its subsidiaries may be fuzzy:

Since there is perennial debate in management circles about the proper balance between local autonomy and central control, it is not surprising to find many companies avoiding any hard-and-fast policy or gratuitous announcement about who is boss in the event of a head-on dispute between the [multi-national headquarters] and the head of a major overseas [subsidiary].

Nevertheless, headquarters executives can and do articulate their ideals about the relationships between a headquarters and its subsidiaries, and these ideals affect the organizational designs these men prefer. It appears that a multi-national company has comparatively weak informal organizations because of the high cost of communication and travel, and so the choice of formal organization has a very marked effect on headquarters -- subsidiary interaction. To alleviate communications problems, the company may try to have identical organizational structures in all subsidiaries. It is for these reasons that a discussion of the formal organization will precede the informal, even though the questions defining the archetypes dwell on informal relationships.

Archetype 1: Polycentric Headquarters, Ethnocentric Subsidiaries

Churchman and Schainblatt (1965) discussed the interrelationship between an O.R. analyst and a manager. This corresponds (with a reversal in rank) to the interrelationship between headquarters and a subsidiary. In this archetype we assume that headquarters does not understand the intricate interpersonal details of the subsidiary. Similarly we assume that, apart from a little rhetoric, the subsidiaries are not really urged to understand the headquarters. Churchman and Schainblatt refer to mutual non-understanding as their "separate function" position. Leavitt (1964) bases his chapters 11-13 on the manner in which one person intervenes in the work of another. In this archetype there is neither direct nor indirect intervention by headquarters, hence no chapter by Leavitt. Such behavior could occur in an international holding company, or even in a domestic company with a weak international division.

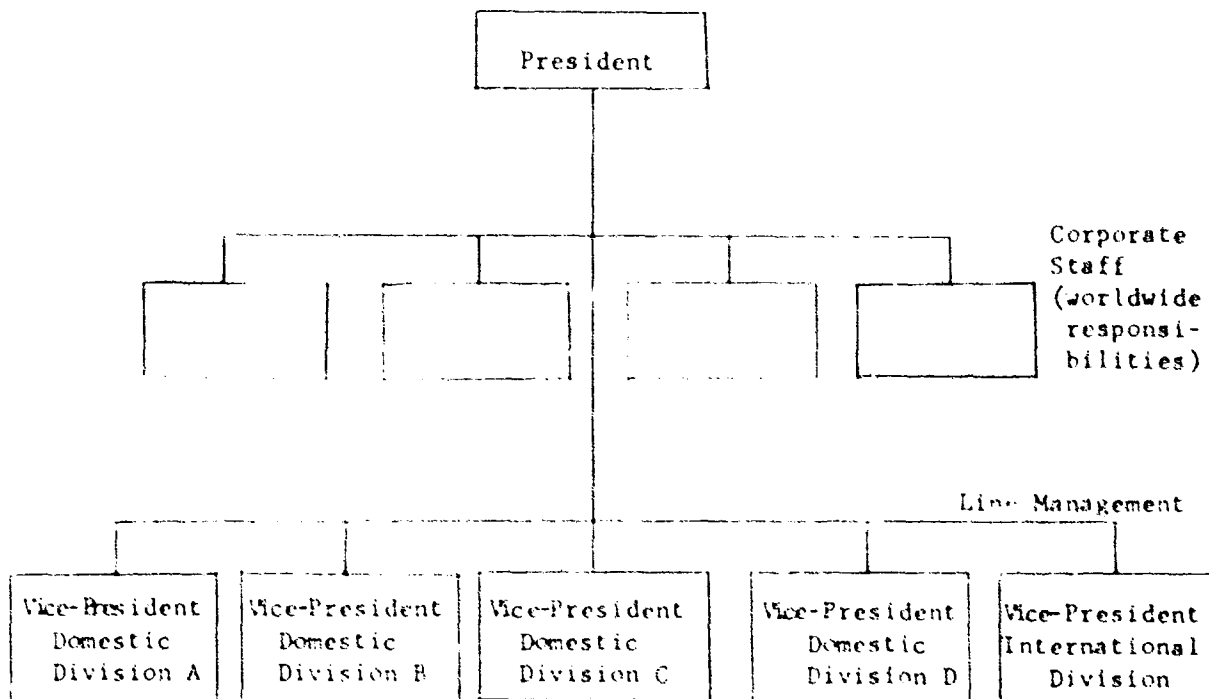


Figure 1: International Division
(Clee and Sachtjen, 1964)

1.1 The Practice of a Polycentric Headquarters and Ethnocentric Subsidiaries

The separate function position seems to occur in at least two situations:

- (1) The legal owner is a holding company which has diversified its holdings over many countries.
- (2) The legal owner of subsidiaries is a large U.S. company. Its Vice-President of the International Division has a staff whose growth has not matched that of the subsidiaries abroad.

A corporation engaged primarily in domestic business cannot afford to have all of its executives keep up to date about changes in tariffs, foreign exchange regulations, and political ideologies. Years ago, many corporations formed international divisions to handle export orders, and administer other matters pertaining to business abroad.

Howe Martyn (1964, pp. 133-135) has described the evolution of ethnocentric subsidiaries when headquarters control is weak:

In many cases [international] operations began with unsolicited imports by an indigenous distributing firm. The growth of such trade led to formal recognition of the distributing firm as an exclusive agent. Subsequent stages provided local labeling to meet language requirements and government regulations, then local assembly, then local manufacturing ... Eventually the local proprietor was bought out ... With forethought and determination, he could often obtain the succession to this position for his heir. There are several foreign sales agencies, now wholly owned subsidiaries of American firms, in which the sons of former agents are currently presidents.

[This kind of local president] is shrewd, determined, self-reliant, and enterprising. It is natural that he should exploit distance from the head office, private responsibility to only one man -- the overseas director or his equivalent -- and knowledge of local language and law, officials, and customers to increase his importance in the organization ... The theory has been that they need almost complete freedom to make the best use of their knowledge of local conditions and to take prompt actions. There

has also been an unacknowledged readiness to shift some of the heavy weight of responsibility that burdens the top management of a large concern. Why should the parent company look for trouble? Let Jones, who is on the spot, follow his own way, which he says is the African or Australian way, so long as he makes profits.

In this polycentric-ethnocentric archetype the International Division of the parent company has little effective control over the subsidiaries, despite the formal line of authority to each from the International Vice-President. The term polycentric headquarters is a recognition of the fact that each subsidiary is the center of decision making for itself.

1.2 Role of a Headquarters Operations Research Group

Whether the international headquarters is a holding company or the international division of a domestic company, there is a staff of people. There are usually a great many accountants busy at the housekeeping tasks of consolidating statements from the subsidiaries, and collating foreign tax receipts for submission to the U.S. Internal Revenue Service. In this archetype of headquarters, an operations research group would be kept very busy on data processing jobs. Martin Starr (1965, p. 32) describes these as tactical jobs in which the O.R. group can hold a separate function position with the line management. "Broad outlines of action have already been set down as policies. High degrees of technical specialization and researcher attention are frequently required at this [technical] level. Low degrees of managerial generalization and conceptualization are required to achieve results."

A second role for a headquarters O.R. group would be as a coordinator of program packages to be sent to all subsidiaries for inventory control,

critical path calculations, etc. The relationship of this O.R. staff to the subsidiaries would be rather like that of SHARE to IBM users. A third role for a headquarters O.R. group would be to systematize the work done in headquarters. For example, if teams of auditors must visit all subsidiaries then a near optimal itinerary can be found using existing travelling salesman techniques. Problems of pricing and product design would probably be decided in the subsidiaries, although headquarters may concur.

1.3 Metamorphoses from Archetype 1

To a host government, an Archetype 1 subsidiary is rather bland. The annual remission of dividends affects the balance of payments. There is usually access to the headquarter's research and development, but a home owned firm could have achieved similar access by licensing. Because it is a "good corporate citizen" by conforming to the norms and values of the host country, the subsidiary cannot energize domestic companies by the demonstration effect of raising their levels of aspiration.

The multi-national company has a geographically diversified portfolio of investments, whose total income should therefore be quite steady, if quite low. Unfortunately, as relative business conditions change around the world, there is no mechanism to adjust by reallocating markets to plants, or otherwise to change the rate of flow of resources. Furthermore, because there is no strong central coordination, the bottom-up nature of planning in this Archetype will likely result in many small investments which otherwise might have been combined for economics of scale. Archetype 1 is metamorphized into either Archetype 2 or Archetype 3.

If a strong person is appointed head of the parent International Division, and if assets abroad have grown to a large percentage of total corporate assets, then it appears likely that the company will move to Archetype 2. The subsidiaries will not be reorganized, but the headquarters will start to manipulate their levels of aspiration, persuading them to coordinate their activities and to update themselves.

On the other hand, if a strong president is chosen for the parent multinational company, especially if assets abroad are a small percentage of total assets, and if the company manufactures a diversified product line, then the company will likely move to Archetype 3. The "mess" in the international division will be straightened up. Each product division will assume world-wide responsibilities for its product.

Archetype 2: Geocentric Headquarters, Ethnocentric Subsidiaries

This archetype corresponds to Churchman and Schainblatt's (1965) persuasion position. The headquarters has a geocentric viewpoint, understands the details of its subsidiaries, and how the subsidiaries interact. The subsidiaries are not urged to attain a similar geocentric understanding. In fact, as Leavitt (1964, Ch. 12) would see the interrelationship, the myopic ethnocentricity of the subsidiaries leaves them open to manipulation by headquarters. Of the various bases for decentralization discussed by Luther Gulick (1937) a geographical organization would make this interrelationship most likely.

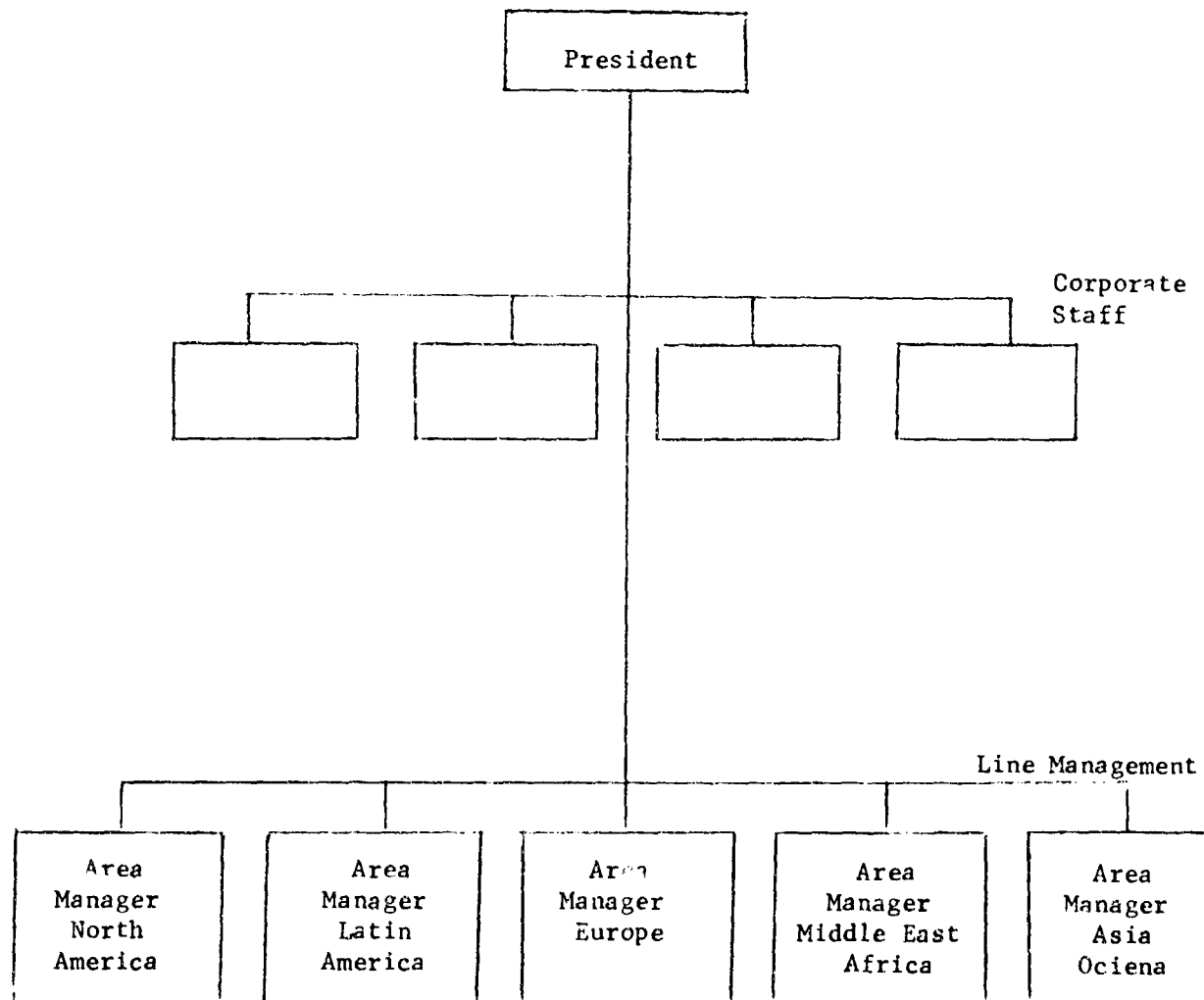


Figure 2: Geographic Structure
(Clee and Sachtjen, 1964)

2.1 The Practice of a Geocentric Headquarters and Ethnocentric Subsidiaries

Headquarters, in this archetype, must understand each national subsidiary. This appears most likely to be accomplished if headquarters is arranged into geographical divisions of formal responsibility, with a contact officer manning a national desk, and with all communication to the subsidiary channelled through him. Clee and Sachtjen (1964) have suggested that a geographical structure of formal responsibility is especially viable if only a narrow range of products is manufactured and marketed. It is also appropriate if the products are sold to nationalistic local governments.

This is the persuasion archetype. Headquarters must understand the subsidiary so as to be able to manipulate the subsidiary in a way that is optimal to headquarters. The subsidiary lacks a reciprocal understanding and hence is more myopic in its dealings with headquarters. Even "understanding" has two levels of meaning. At the simple level, headquarters may want to grasp enough of key personalities in the subsidiary to be able to overcome their resistance, to be able to "sell" them. At a more sophisticated level, headquarters may feel that each of its recommendations must be tailored to the nationality, to the norms, values and managerial style of the subsidiary as a whole, rather than playing on the weakness of a few key employees. Creelman and Wallen (1958, p 119) note that:

"Essentially [headquarters] attempts to find rational solutions for the relief of some organizational disturbance. But the discovery of a rational solution to a problem does not insure its acceptance ... All too often [there is disfunctional reaction to headquarters] findings ... because the proposal arouses fears of loss of prestige. It may produce resentment because it seems to rob [subsidiaries] of their independence of action. It may be resisted because of the sheer effort of having to learn a new way

of doing things. Social psychologists know something about overcoming irrational resistance to organizational change. If they are to use this knowledge effectively, however, they must be associated with [headquarters] from the very beginning of its [intervention]."

It may appear a little ironical to recommend gaining control over ethnocentric subsidiaries by creating a geographically organized headquarters. Yet this seems necessary if understanding (such that headquarters can teleologically anticipate the reactions of each subsidiary) is deemed a prerequisite for control. Of course, the informal organization of headquarters must be maintained so as to integrate product and functional competence.

Note that each subsidiary will try to show that its needs, as a function of culture and geography, are really different. In fact the danger inherent in a geographically structured headquarters is that the contact officers may identify too closely with the subsidiary they are supposed to be controlling. The contact officer occupying, say, the Mexican desk in headquarters should have some prior empathy with Mexican problems if he is to understand and manipulate the Mexican subsidiary. Now for month after month, he is immersed in a wide stream of communication from Mexico. He will probably start to identify with the Mexican subsidiary, and become its proponent within headquarters.

A person identifies himself with a group when, in making a decision, he evaluates the several alternatives of choice in terms of their consequences for the specified group (Simon, 1957, p. 205).

Some of the factors affecting group identification have been discussed by March and Simon (1958, Ch. 3).

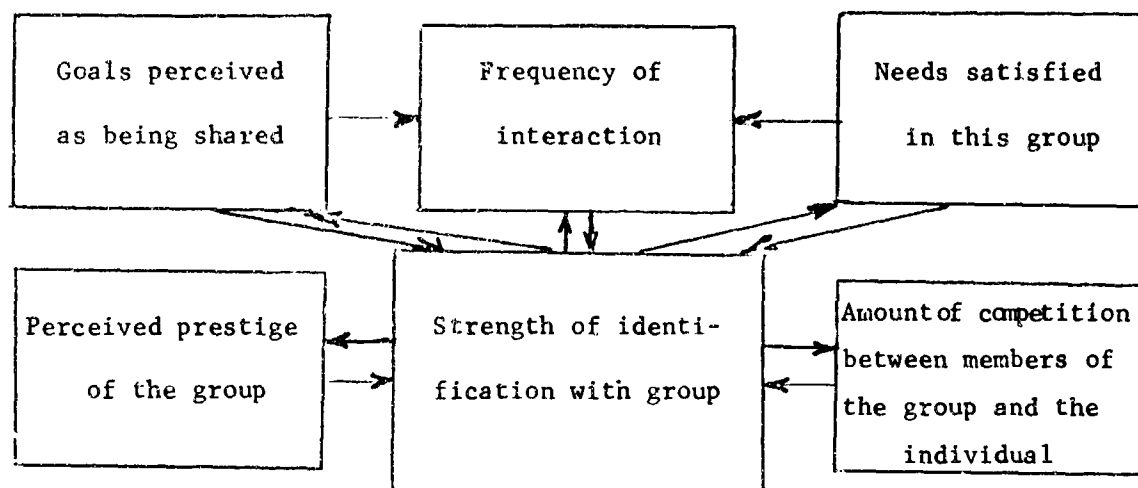


Figure 3: Basic Factors Affecting Group Identification
Rearranged from March and Simon (1958, Fig. 3-8)

The contact officer is torn between identifying with his headquarters, and identifying with the subsidiary he is supposed to be controlling. The five factors in the above figure affect his dual identification.

(1) Goals perceived as being shared

March and Simon (1958, p. 68) suggest that similarity of background and similarity of position increase the perception of shared goals.

To assure identification with it, headquarters could recruit contact officers with similar family and educational background (same graduate school of business), by small group pressure encourage them to dress alike (button-down collar and Brooks Brother suits) and carefully administer the symbols of office (carpets, clocks, pen sets).

On the other hand, if there has been any rationale behind the assignment of contact officers to country desks then hopefully the contact officer has some prior knowledge of, and probably empathy for, the country he is supposed

to control. In that second generation immigrants often know a great deal about, but are very critical of the homeland of their parents, they might be able to resist this identification with a subsidiary.

(2) Frequency of Interaction

The sharing of common goals and the satisfaction of an individual's needs within the headquarters group will tend to increase the frequency of his interaction with the group. At the superficial level this calls for company dining rooms, rounds of cocktail parties, and strong social pressure that all contact officers live in the same suburb. But if meaningfulness of interaction is what leads to group identification, then there has to be a common language, a management information system, in which to converse about the nebulous uncertainties of international business.

The contact officer interacts with his subsidiary. He is exposed to a deluge of communication about the subsidiary, about government balance of payments policies, growth policies, commercial risks, and general political and social movements of the nation. His visits abroad are to the nation, and, in turn, he acts as host for visitors from the nation.

(3) Needs Satisfied within this Group

A number of psychologists such as Maslow (1954) have proposed hierarchies of needs. Though the following represents a gross simplification of the analytic work on motivation, it will be quite sufficient here to condense Maslow's work to four successive classes of needs:

- physical
- social
- ego ideal
- self actualization

The contact officer occupying a national desk in headquarters will have his physical needs satisfied by his pay check, and his social and affection needs satisfied by his fellow employees and his family. But it appears most unlikely that the contact officer will achieve his ego ideal or his self actualization through his relations with his fellow employees in headquarters. Perversely, this lack of higher needs will appear most acute if his physical and social needs have been gratified.

Any desire for power in the ego ideal of a contact officer may well be satisfied by his relationship with the subsidiary. He dominates the subsidiary and can veto or censor messages sent to it. He identifies himself as the (Mexican) contact officer. So long as he is the sole contact officer for a nation, he has autonomy of action. By linking this autonomy with the artistic subtlety of his job and hence his inability to rationally account for his actions, he can even satisfy his needs for self-actualization as he tries to make his part of the world into the image he desires.

(4) Perceived Prestige of the Group

There is a self fulfilling prophesy to the contact officers' perception of the prestige of his headquarters. If the headquarters intervenes in the affairs of the subsidiaries then the contact officer will see the headquarters as being important, will tend to identify with the headquarters, and will therefore be more willing to intervene in the affairs of his subsidiary. Furthermore, if the contact officer perceives the headquarters as important and prestigious, he will likely strive to get promoted within headquarters, and this aspiration will weaken his identification with his subsidiary.

Nevertheless, his subsidiary may be prestigious. Prestige accrues to a subsidiary primarily because of its size and its importance to the multi-national corporation. But between subsidiaries of equal importance to the multi-national company, the general political prestige of the country will influence the perceived prestige.

(5) Competition Between Members of the Group and the Individual

As was noted, if an individual is in competition with other members of a group, then "in making a decision, he evaluates the several alternatives of choice in terms of their consequences for the specified group." (Simon, 1957, p. 205) If this is so, then competition helps him identify with the group; of course he will be scheming against the group if the competition becomes more serious than sporting.

Each contact officer will identify with headquarters if he has an adequate conceptual framework to see that he is competing against the other country desks for corporate resources. If this framework or model clarifies his ability to evaluate the implication of his choice on the other nation desks in headquarters, then his competition with them will probably be worthwhile to the overall company. The ideal is to structure conflict, and to plan conceptual frameworks. Operations research models might help contact officers achieve these goals.

However, the contact officer is also in competition with his subsidiary. If the subsidiary is staffed by intelligent people, then there will be an element of gaming in their responses. So long as the contact officer retains his feeling of superiority then the more cunningly responsive the subsidiary the more he will be engrossed with it.

2.2 Grouping Nations into Areas

Area managers manage contact officers because there are presumed economies of scale in coordination and tactical planning. This does not imply that the subsidiaries that comprise an area have to be contingent, especially with recent cost reductions in communication, in air fare, and in air freight rates. Although the diagram opening this Archetype used hemispheres for areas, it would instead be possible to group countries by their similarity of managerial style. Haire, Ghiselli, and Porter (1963, pp. 95-96) focussed on the three aspects of managerial style:

- (1) views on leadership and how one gets work done well and efficiently, (2) the way in which the role and practices of the manager are seen by managers themselves, and (3) the satisfaction a manager wants and gets from his job.

While analyzing detailed questionnaire responses to questions underlying these aspects from over 3,500 managers in 14 nations, they were struck by the fact that respondents in five clusters of nations gave similar answers.

- Belgium, France, Italy, Spain (Latin-European)
- Denmark, Germany, Norway, Sweden (Nordic-European)
- England, U.S.A. (Anglo-American)
- Argentina, Chile, India (Developing)
- Japan (Oriental)

Further investigations into differences in managerial style are being performed by Bernard Bass, now at the University of Rochester. Of course, questions of managerial style must be supplemented by questions of the size and managerial competence of each subsidiary, and of the pattern of product flow between subsidiaries.

2.3 Role of O.R. Models within Headquarters

In this Archetype 2 just as headquarters assumes a persuasion position in dealing with the subsidiaries, so similarly it seems appropriate that the headquarters O.R. group assume a persuasion position in dealing with contact officers on the various national desks. These contact officers are the only ones capable of persuading the subsidiaries to implement the O.R. results, so the headquarters O.R. group will have to "understand" the contact officers.

Headquarters must achieve an effective interaction among the contact officers. This requires that the headquarters O.R. models be simple enough for the contact officers to understand and that they be designed for easy change. In that a real problem can be formulated by several O.R. techniques, the need for participation implies selecting the techniques which are most meaningful to the contact officers (regardless, almost, of the computer time required.)

If the O.R. group is asked to calculate optimal prices then it seems appropriate that no arbitrary constraints be imposed on the prices, such as requiring that the prices be the same around the world as in Archetype 3. Worldwide standardization of product design will not likely be achieved, though there will likely be a greater use of identical products than in Archetype 1; the role of the O.R. group on this problem of product design would simply be to estimate inventory savings and the benefits of multiple sources of supply if some subsidiaries sell identical products. There will probably be strong pressure to compute rates of return as though profits will be left in the subsidiary and will not have to pay any repatriation taxes. In fact, capital budgeting will appear chaotic to the headquarters O.R. group, because each subsidiary will be raising some of its capital locally at the

local rate of interest. A key contribution of the O.R. group will be its nebulous accomplishment of helping contact officers achieve the conceptual framework of how their subsidiary interacts with worldwide operations.

2.4 Metamorphoses of Archetype 2

In Archetype 2 the geographical dimension is clearly satisfied. The subsidiaries can engage in bottom-up planning, which can be coordinated with the long time horizon top-down planning of headquarters. Destabilizing forces for this archetype can be expected from the product and from the functional specialists. For example, suppose the headquarters operations research group makes a large linear program of the worldwide production facilities for a particular line of products. They will run this to arrive at a new optimal allocation of national markets to plants whenever there are demand changes in a nation due to tight money, transportation cost changes due to revised rates of duty, even the loss of a plant due to a strike or sabotage. However, implementation of these plans may be frustrated by the national contact officers. The Kennedy round of tariff cuts, to be made over the next five years, will provide additional incentive to rationalize worldwide production planning, and cut out uneconomically small plants. The Kennedy round will thereby accentuate product and functional pressure to end the geographical structure.

Archetype 3: Ethnocentric Headquarters, Xenophobic Subsidiaries

The headquarters may not understand the environmental details of its subsidiaries. If it does not, it cannot tailor communications to the subsidiary but instead must urge the subsidiary to understand the way headquarters perceives the world, and implement communications in that way. Churchman and Schainblatt (1965) call this the communications position, emphasizing its one way flow. Leavitt (1964, Ch. 11) would describe the behavior of the headquarters as authoritarian, for its intervention in the affairs of its subsidiaries is direct, rather than manipulatively indirect. If there are few products, the company can be organized by function: worldwide marketing, worldwide production, worldwide accounting, etc. If there are more products, then each product group can be given worldwide line responsibility, and have functional staffs.

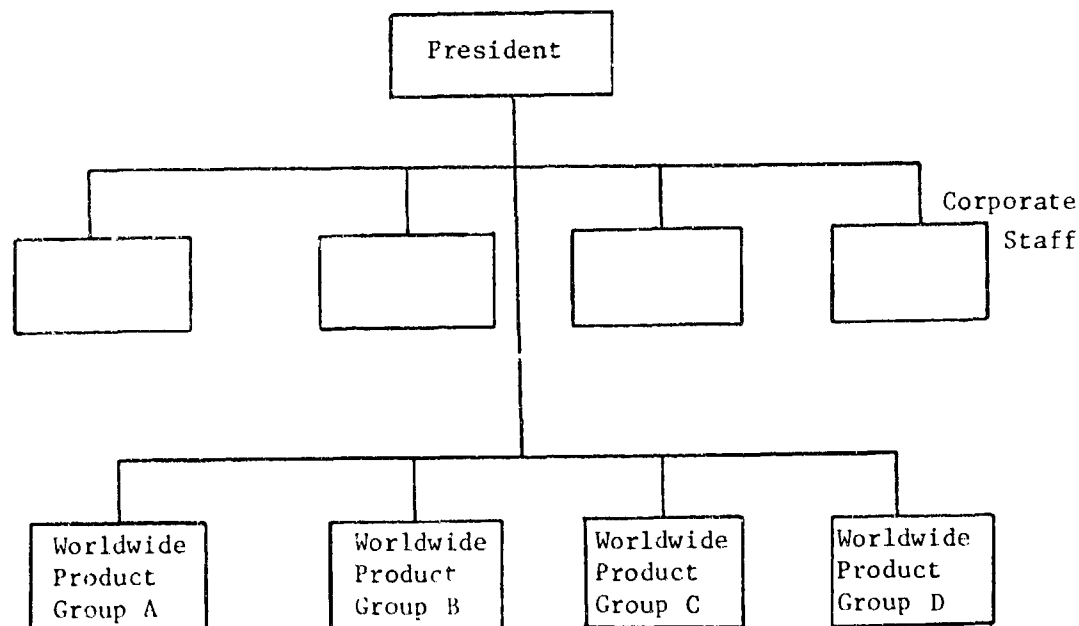


Figure 4: Product Structure
(Clee and Sachtjen, 1964)

3.1 Practice of an Ethnocentric Headquarters and Xenophobic Subsidiaries

It sometimes happens that a prominent domestic company decides to expand abroad by building subsidiaries. It may have expanded before but its product managers were insulated from foreign business, and are now openly concerned about the instability of each foreign country, and suspicious of nationals as potential employees. They are ethnocentric. With the self assurance of a missionary, the attitude of these managers is that "we (people of country A) are superior, and have greater resources, facilities and competence than you (people of country B). We will build facilities in your country if you accept our inherent superiority, and our methods and procedures for doing the job." (Perlmutter, 1965)

Especially if the company has been successful domestically will it feel that its standard methods and procedures for problem solving are not only superior to those used in the host country but that these practices represent the unique contribution that the multi-national company can make to the economy of the host country. The headquarters, therefore, requires that these standards and procedures be used by the subsidiaries.

Procedures for decision making are communicated to the subsidiaries. Each product group in headquarters must know its specialty to be able to translate this knowledge into understandable terms in foreign languages. Headquarters is communicating not only programmed tasks (accounting rules, etc.) but also non-programmed problem solving approaches, standards of judgment and levels of aspiration, though it reserves for itself the most non-programmed decisions.

The recipients of this one-way flow of communication are individuals in the subsidiaries. They are supposed to learn the methods, standards and aspirations of headquarters. But they may be irked at this imposition of business practices of an alien culture, react xenophobically and resent the effects of being governed by foreigners.

The transmitters of this flow of communication are individuals in headquarters, in both line product groups and staff functional positions. They benefit in that uniform business practices and accounting systems in all subsidiaries make for easier headquarters control by providing a standard for clear communication among the executives. As Howe Martyn (1964, p. 141) emphasizes:

The development of uniform accounts was the key that enabled a firm to become international, in the sense that it provided intelligible communications between the foreign branches and the parent company. Uniform accounts enabled the central management to understand the positions of the foreign branches--a prerequisite for central control. Uniform systems of accounting show what has happened and supply the basis for budgeting and planned development. International firms are even more meticulous about the reports that branches provided on employment of capital, raw material and production costs, inventories, cash position, and trading results than about patents and trademarks and production formulas and standards. On organization charts, this concern shows in the elevation of branch accountants to branch boards or management committees. These men are closely advised by head office accounting experts.

Each of the professional disciplines is unified. Professional and product specialists fly about the world educating the appropriate personnel. Each product division has worldwide responsibilities and therefore can standardize design, and specifications; it can even use large linear programs to optimize production over the world. Let us first examine worldwide relationships of

these specialists within one product division, and then see how the product divisions interact in headquarters and in the subsidiaries.

3.2 Interaction Within a Product Division

If the production process is complex, each subsidiary production manager will tend to identify with his worldwide product. He will probably develop a loyalty to his product division and may view himself as only temporarily stationed in some particular subsidiary. Furthermore, his advancement is likely to be in the form of lateral moves, in the same product division, to larger subsidiaries. He is a member of a group of professionals or product specialists, whether in headquarters or in the subsidiaries, and a group has norms of behavior. An individual whose recommendations transcend group norms will be eased out of the group. If a production manager recommends a non-standard design, tailoring a plant to a certain nation, he may find himself stuck at that plant for the rest of his working life. Perhaps this group identification is the basis for Martyn's observation (1964, p. 138) that:

It is a strict rule among the long-established international firms to manufacture the same products or to deliver the same services on which their home success was founded in as many countries as possible. If one of these products will not sell in a country for peculiar national reasons (soap with a carbolic smell was associated with brothels in France), the international concern prefers to withdraw rather than modify the product. Accepting variations would leave the company without consistent standards, which could disturb its accounting and its marketing, as well as its production arrangements.

Martyn's example of Lifebuoy Soap may be extreme, but an archetype is an extreme of behavior -- here reality is as extreme as the archetype. In summary, the worldwide relationships within a product division or professional

group are very strong. The manner in which these product groups affect the subsidiary will first be examined, and we will then turn to see how they interact within the multi-national headquarters.

3.3 How Product of Professional Groups Affect the Subsidiaries

A number of companies have been organized along product and professional lines so as to assure that the local subsidiaries will be run well but have then selected a local national as president. The local president, assured that business is being well taken care of, is expected to make public appearances to refute the negative impression his (host) nation has of foreign corporations. Ironically however, whether the local president is in his office or away on speaking tours, the product and professional divisions may not really want to include him in their decisions. We noted in Section 3.2 the group pressures to conformity within a product or professional discipline, and hence the likelihood that decisions made will not be tailored to the particular needs of the subsidiary.

Exclusive scientific knowledge makes the university-graduate engineers who now handle production a fraternal order or secret society within business. They have their own codes and passwords and mutual assistance policies. The technical man from the head-office advises the branch factory manager, and the branch president often does not know what they are talking about (Martyn, 1964, p. 139).

The local president may not understand the language of each product and professional group, but he is likely to develop a well-founded suspicion that their decisions are not in the best interests of his subsidiary. But he can do little about it, because though he has formal authority he lacks professional authority (Etzioni, 1964, Ch. 8). His reaction will probably be that of xenophobia--distrustful fear of foreigners, and their machinations.

In this archetype it may be possible for one or two subsidiaries to achieve positions of power. A subsidiary with a reputation for quickwitted, responsive personnel may come to be used as a pilot plant or testing ground for procedure changes that will later be applied around the world. A small subsidiary is more appropriate as a pilot plant than the subsidiary in the headquarters nation, because the latter is probably too large and unwieldy, so that stories of experimental procedures that failed would ricochet for years among competing product professional divisions. If the guinea pig subsidiary can understand the product or professional division, then by leading headquarters along it can secure the adoption of these procedures that, out of those which are satisfactory to the division and the other subsidiaries, are in some sense best for the pilot plant subsidiary.

More generally, if the educational level of the employees of the subsidiary is sufficiently high, and their general cultural milieu is advanced, the subsidiary may come to understand the barrage of communication from headquarters. For a U.S. headquartered multi-national company this rather startling conclusion may not often occur in practice because of the gap in general technology and education between the U.S.A. and most other countries. It is interesting to note, however, that personnel in the U.S. subsidiaries of Shell and of Unilever claim that they receive very little direction from the Hague and London, that to a great extent these subsidiaries in the U.S.A. determine their own destiny.

3.4 How Product of Professional Groups Interact in Headquarters

In headquarters there must be some nucleus of men trying to coordinate the several product divisions:

- (1) allocating resources among the product divisions and professional groups,
- (2) assuring adequate geographical diversification of resources.

It is difficult to know how to allocate resources to product divisions and professional groups. There are many of the same incomparabilities present when a university allocates its budget to departments, and is implicitly forced to compare the merits of building a new storm sewer, creating the world's foremost department of Classical Greek, or expanding enrollment in the planned medical school by five students.

Assuring an adequate geographical diversification of resources is also a challenging problem. Each product division has received a lump sum budget to allocate over the countries in which it operates. As a product division, it is supposed to have autonomy of action unless it affects other product divisions and impairs the multi-national company.

The coordinating nucleus of headquarters could try to achieve an optimal geographical diversification by manipulating its forecasts of economic risks and political uncertainties. But this would doom the credibility of the forecast, particularly if these forecasts would penalize the home country in an attempt to persuade the divisions to invest abroad. Another tool for the coordination would be to offer a bounty to investments in certain countries. A further method of achieving coordination would be to distribute national propaganda and schedule coordinating meetings in the unattended nations.

3.5 Role of Headquarters Operations Research Group

An operations research group working with one of the product divisions faces comparatively neat problems. If the OR group can convince headquarters

product executives of the rightness of their work, then the worldwide implementation is probable; the subsidiaries will succumb.

If optimal pricing policy is being formulated then it seems appropriate in this archetype that the price of an item should be either the same in all markets of the world, or the same f.o.b. New York. Questions of product design policy will probably never reach the O.R. group, for the U.S. design will be sold around the world, the only modifications considered being those required by local laws and electrical power characteristics. Investment rates of return will be computed assuming that the U.S. is the only capital market, and that profits must pay all taxes of repatriation. Models of management succession and experience phasing need consider only Americans, because a seeming shortage of managerial talent abroad results in all key positions being held by Americans.

3.6 Metamorphoses from Archetype 3

There are external and internal forces that cause a company to change from Archetype 3. The external force is the rising spirit of nationalism in almost all nations. Laws can be passed, and enforced, that require changes in a product design, in advertising copy, or in accounting procedures. Furthermore, the example of Japan is leading more nations to discourage the expansion of wholly owned subsidiaries, and to encourage joint ventures.

Within the company there are problems that lead to metamorphoses from Archetype 3. In a small nation, should the company have all product divisions represented? How can local initiative be excited? How can local managers be developed in each subsidiary? One route is to transform to Archetype 4.

The other route, taken by the Singer Company (Faltermayer, 1963, p. 167) is to transform to Archetype 2.

Previously, the company was highly centralized along functional lines, with various departments in New York telling foreign subsidiaries how to run production, marketing, and the like. Now the company has been broken down into nine fairly autonomous operating divisions, five embracing major foreign areas such as the Far East, and Latin America. Each division, headed by a vice president in New York, is a "profit center" charged with earning an appropriate return on the assets assigned to it, and the divisions in turn are subdivided into smaller profit centers, such as individual foreign countries.

Archetype 4: Geocentric Headquarters and Geocentric Subsidiaries

When the headquarters understands its subsidiaries, and each subsidiary understands headquarters (and how other subsidiaries are handled) then there is mutual understanding (Churchman and Schainblatt, 1965). Leavitt (1965, Ch. 13), discussing collaboration, would have headquarters intervene indirectly in the affairs of a subsidiary so that the latter would recognize its areas of weakness and call in the headquarters for direct help.

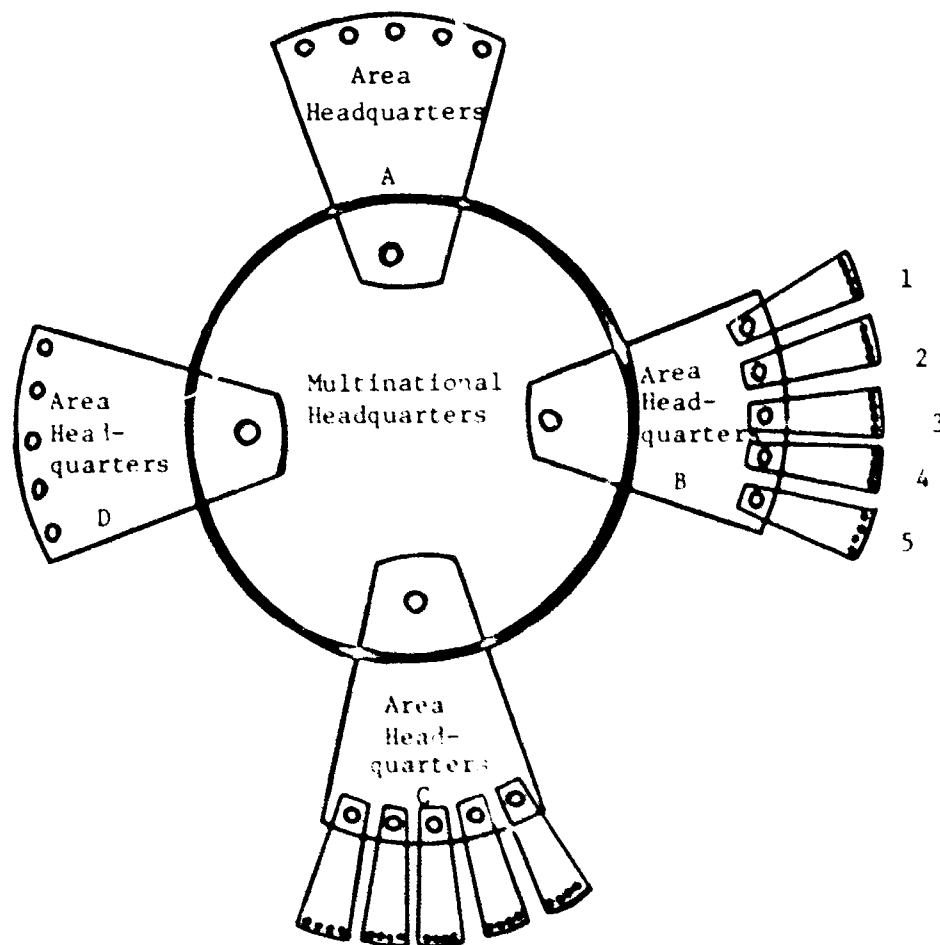


Figure 5: Geocentric Structure

4.1 Theory of a Mutual Understanding Archetype

In the theory of this archetype of mutual understanding, headquarters not only understands the subsidiaries but also realizes that its maneuvers are understood by each subsidiary. Furthermore, it tries to encourage this understanding, for headquarters' ability so to encourage the subsidiaries is one measure of its own understanding of them. Thus headquarters must try to translate its procedures, translating not just the language, but the procedures themselves so as to be most meaningful to each particular subsidiary.

The communication within a multi-national company is hampered by the physical translation problem of people talking different languages, and is also hampered by national differences in human gestures and unconscious etiquette, that which Hall (1961) calls the "silent language". All this is quite apart from the different aspirations and social needs of human beings in different countries. Just as in the persuasion archetype, literal word-by-word translations are of little use.

Massive information flows are implied, especially for information that cannot readily be reduced to unambiguous technical terms--reporting on possible government actions to further national development is appreciably more complex than reporting last month's production rate. March and Simon (1958, p. 164) emphasize that:

It is extremely difficult to communicate about intangible objects and non standardized objects. Hence, the heaviest burdens are placed on the communications system by the less structured aspects of the organization's tasks, particularly by activity directed toward the explanation of problems that are not well defined.

In a multi-national company, prompt and uninterrupted feedback, especially face to face meeting, is desirable, but does not remove the difficulty. As Howe Martyn (1964, p. 143) illustrates:

Visits to and from the foreign subsidiary are one way of communicating. For the purposes of the organization ... written reports about such visits are essential. The resistance against this systematic necessity among the average senior businessman is astonishing.

A further block to mutual understanding arises from the fact that over time in an organization there develop bodies of "legitimized facts", conclusions which have been extracted from the body of raw evidence. The evidence may be contradictory, and vague, but "in a culture where direct contradiction of assertions of fact is not approved, an individual who is willing to make assertions particularly about matters that do not contradict the direct perceptions of others, can frequently get these assertions accepted as premises of decision." (March and Simon, 1958, p. 166). Let us now try to design an organization in which mutual understanding is possible.

4.2 Geocentric Organizational Design

Churchman and Schainblatt (1965) eulogized mutual understanding, then described it in less than two pages. Harold Leavitt (1964, Ch. 13) was reduced to using Alcoholics Anonymous as his example of a collaborative organization. Similarly, Howard Perlmutter depicted only the goal of a geocentric-geocentric organization, not the means. Indeed, the academic discipline of organization theory appears to be retreating from organizational design, perhaps because so much is now known that there are counterexamples to any principle of design. Nevertheless, a design at least provides a

definitive target. Although the previous archetypes have been descriptive of real companies, this fourth and final archetype is conjectural.

Salary problems currently plague international companies. Pay differentials from nation to nation are accepted at the laborer level, and at higher levels of the organization so long as the recipient uses as his reference groups, people in his nation. Pay differentials are not accepted so readily by skilled mechanics who are flown from subsidiary to subsidiary to lead plant startups. Nor are pay differentials readily accepted by "third country nationals", for example a British citizen managing the Mexican subsidiary of an American based company. A first step to organizational design will be to draw a clear distinction between employees destined to remain always in their subsidiary (or their headquarters) and employees who will travel and live around all their life. The latter group, the cadre of international managers, cannot be expected to accept pay differentials based on their original nationality.

A cadre of mobile managers is desirable for two reasons. First, the company would like to be able to adapt quickly to changes in business environments, and be able to move some people from a slack nation to a booming nation (this is in addition to the ability to have a worldwide engineering staff, in Israel perhaps, stop working on projects in the slack nation and turn to projects for the booming nation). The second reason for having this cadre is to effect responsive communication and coordination between the following four dimensions of the organization:

- geographical
- product

- function

- planning time horizon.

The geographical, product and functional dimensions have been explicitly covered in Archetypes 2 and 3. The dimension of different planning horizons is implicit in the ability to respond flexibly to environmental changes. The need for planning a long time horizon is accentuated by the nationalistic reactions of host governments, and of local partners in joint ventures.

To synthesize the four dimensions of the organization, we shall use Rensis Likert's work on interacting small groups. His two key concepts are first, his emphasis on small groups, and secondly, on the overlapping of groups so that a person can be a member of two or more small groups. In this geocentric-geocentric company each manager is a member of four groups -- nation, product, function, and planning horizon. The particular individuals who are members of two small groups are "linking pins"; between any two groups there can be several linking pins. The cadre of mobile managers function as linking pins between nations. As Likert explained (Haire, ed. 1959, p. 203):

An organization will not derive the full benefit from any of its effective groups, unless these groups are in turn linked to the total organization by means of overlapping effective groups. The use of effective groups in one part or in scattered portions of an organization will fail, therefore, to achieve full potential value of such groups...

When a group fails to function well, the higher it is in the hierarchy, the greater is the adverse effect of this failure on the performance of the organization. The linking process is more important at high levels of an organization than at low, because the policies and problems dealt with are more important to the total organization and affect more people.

Consequently, failure of the linking-pin function at higher echelons has correspondingly more serious effects than failures which occur at low levels in the organization.

In this hypothetical geocentric-geocentric organizational design, the formal structure of authority shall be based on planning time horizon. The multi-national headquarters as a group is primarily engaged in strategic and entrepreneurial planning. The various Area headquarters perform tactical planning and establish controls for the subsidiaries. Ideally the work of the Area headquarters would be routine and orderly. There must be procedures and controls if production is to be coordinated, for this implies cross shipments of parts and subassemblies, coordinated inventories and production smoothing over all countries in the Area. Strongly centralized procedures and controls are also vital if transfer pricing between subsidiaries is to be used as an instrument of financial-tax policy rather than be a hotbed of bitter acrimony. Each subsidiary operates in the environment of its nation, an environment which differs from that of other nations because of laws and public policies, industrial and public relations, and economic and market conditions. There must be communication between these three hierarchies of groups, hence the emphasis on linking pins.

4.3 Multi-National Headquarters

The strategic and entrepreneurial planning called for in the multi-national headquarters has been described for domestic companies by Ansoff (1967, p. 8).

First, extrapolative projections of the firm's present product-market position are supplemented by probing and far-ranging analyses of the firm's environment to discover threats and opportunities which may produce major departures from the extrapolative projections of performance and resources ...

The analysis involves studies of: economic and social forces which determine demand for the firm's products; the nature of the competitive forces which operate in its markets; and prospects for political and social changes which will affect the company and its environment; [...]

Another new activity is a "strengths and weaknesses" analysis, which attempts to determine and project the firm's capabilities and skills. This includes estimates of both reserve and excess capabilities as well as distinctive capabilities possessed by the firm.

Even for a domestic firm, its environment is something very elusive to study. Because a multi-national company operates in many environments, and can thereby move resources from an adverse to a favorable national environment, it is all the more important that some group compare environments. This will not occur automatically. For example, trying to decide on the probability of a coup d'etat in a certain country is a distinctly non-programmed activity; deciding that someone ought to consider the question is even less programmed. After all, a citizen of that nation, loyal to his nation and loyal to his employer (the subsidiary), is not likely to issue dire warnings until the problem has crossed a certain threshold of criticality. As Leavitt (1964, p. 33) so clearly states:

People perceive what they think will help satisfy needs; ignore what is disturbing; and again perceive disturbances that persist and increase.

Part of the multi-national headquarters staff should consist of political scientists, economists, lawyers, sociologists, and operations researchers, encouraged to maintain their professional identification so as to be more dispassionate in their evaluation of vague intangible and non-standardized information. Their role is to express the "hot" language of political

speeches, newspaper articles, and impressions garnered on field trips in "cool" probability distributions that can be used in long range budgeting and in the analytical models of the Area headquarters. It is clear that by absolving uncertainty in this manner, and by setting the decision premises for long range planning, this multi-national headquarters group is supplementing its formal authority with great influence. As March and Simon (1958, p. 167) have noted:

Whatever may be the position in the organization holding the formal authority to legitimize the decision, to a considerable extent the effective discretion is exercised at the points of uncertainty absorption.

4.4 Area Headquarters

The Area headquarters are organized by product and functional divisions, each in an Archetype 3 communication position with its national subsidiaries. The purpose of the Area headquarters is to perform tactical planning of its subsidiaries. For example, each product division would have O.R. models for the production planning of its subsidiaries. If necessary, it would arrange shipments from other Areas.

The Area headquarters in its relationships with the subsidiaries, will likely insist that performance be reported in standard formats to expedite control. Similarly, the plant design and start-up engineers will probably exert pressure on the subsidiaries to adopt standard manufacturing procedures. But the key difference between this and Archetype 3 is that now there are several Area headquarters. As soon as one Area adopts different norms and standards, an aware subsidiary realizes that it no longer faces an invincible wall of a single worldwide standard and is more likely to get procedures

tailored to its local conditions. Of course, this calls for a geocentric awareness by the subsidiary.

The multi-national headquarters determines what course the company should follow; the Area headquarters determine how. The two levels of headquarters are complimentary.

Although complementary, they need not necessarily be present in the same firm to the same degree of intensity. For example, the top manager of a small firm in a technologically turbulent industry needs all the [multi-national headquarters] planning he can possibly afford but only the rudiments of [Area headquarters]. On the other hand, top management in a large, complex, but basically stable firm can be modest in the use of [its multi-national headquarters], but needs sophisticated [Area headquarters]. (Ansoff, 1967, p. 11)

The needs of the multi-national headquarters, of the Area headquarters, and of the subsidiaries vary through time, so allocations between the three should vary. A guiding rule might be that the Board of Directors identify and build up the weakest of these three (even by transferring men from the strongest), thus dissolving any alliances in this three-person game. But it is never easy to judge which of the three levels is weakest, particularly with technically competent Area headquarters, and the very practice of rewarding weakness may have strange disfunctional results.

An individual in a subsidiary could be promoted by staying within his subsidiary, by transferring to his Area headquarters, or by transferring to the multi-national headquarters. In order to strengthen the importance of the national subsidiary, it may be wise to permit no direct transfers from the Area office to the multi-national headquarters (or vice versa), but require that anyone wanting such a move first refresh his familiarity with life in a subsidiary.

4.5 Guidelines for Formulating OR Problems

Most well structured OR problems will occur in the Area headquarters though their original conceptions may have occurred in the multi-national headquarters. For each of the archetypes guidelines have been prepared for formulating problems of pricing, product design, sources of funds and capital budgeting, and the planned movement of managers.

In pricing a line of products for Archetype 4, an appropriate guideline would be to optimally determine the vector of one benchmark country (e.g. USA), and simultaneously calculate an optimal weighting factor for each country by which to multiply the vector of benchmark prices to obtain local prices. This scheme is simple enough to permit central coordination, yet is also responsive to overall market conditions in each nation.

A few companies are starting to consider questions of rational product design. If the company manufactures identical products around the world it can achieve economies of scale, can benefit from the reliability of multiple manufacturing plants, can enjoy easier maintenance and can consider standardized marketing campaigns. On the other hand, if the company tailors design to each national requirement, it can get its products reclassified by customs inspectors so that they pay lower rates of import duty, can meet local safety and engineering standards, can use local grades and types of raw materials inputs, and can cater to local customer tastes. One rational approach to an optimum would be to modularize the design by subassemblies, and styling panels. Some modules could be tailored to each nation, others to each area, and other modules would be common around the world.

Raising and budgeting capital is becoming quite difficult in international companies, as various countries impose selective currency controls. In Archetype 4 the shares of the multi-national company would be traded on all major stock exchanges of the world. In Archetype 2 local rates of interest were used and it was perhaps assumed that profits would be reinvested locally. In Archetype 3 rates of return were calculated as though profits would be repatriated to the USA. In Archetype 4 the guidelines of appropriate rates of interest and tax liability depend on the future plans of the multi-national company.

Finally, it is helpful to compare guidelines for moving managers. In Archetype 1 everyone stays home except for occasional inspection trips, whereas in Archetype 2 foreigners can be moved back and forth between their subsidiary and the USA. In Archetype 3 Americans are the only ones who cross national boundaries. These are all bilateral moves. Now in Archetype 4, multilateral moves, the use of "third country nationals" must be analyzed. The number of Americans and other foreigners who can hold executive positions in a subsidiary may be restricted by the host government, so it would seem that these slots should be allocated with care, being viewed as an opportunity to familiarity with that nation.

Conclusions

The purpose of this paper has been to lay out a taxonomy of four archetypes and cut through the welter of confusing opinion as to how the headquarters of a multinational company should relate to its subsidiaries. Each archetype is developed to the point of suggesting guidelines for formulating OR problems. This does not mean to imply that a real company will fit neatly into one archetype or another. Though it is difficult to think of one company which is a pure example of any of the archetypes, Clee and Sachtjen give close examples.

There is often conflict over ideals, conflict between various members of groups in multi-national companies, and sometimes within the mind of one individual. In fact, it has been suggested to me that the relationships between headquarters and subsidiaries have close parallels to those of parents and children. Archetype 1 corresponds to autarky (complete separation), Archetype 2 to a persuasive mother, Archetype 3 to a dominant father, and Archetype 4 to the child's ego ideal of his parents. The impact of multinational companies on the host government is portrayed by Watkins (1968, p. 33).

The direct investment corporation may be essentially a national corporation operating extra-nationally, [Archetype 3] insisting on the primacy of the methods it uses at home, and even of the laws of the home country. Or it may be a multi-national corporation in a genuine sense, sensitive to local traditions, and respecting local jurisdictions and policies [Archetype 2]. Or it may be global with such pervasive operations that it is beyond the effective reach of the national policies of any country and, in the absence of supranational policy, free to some extent to make decisions in the interest of corporate efficiency alone [Archetype 4]. These three possibilities - along a spectrum - imply different corporate behavior, with differing consequences for the economy and policy of a host country. It cannot be doubted that how the corporation interprets its nationality is relevant to the host country.

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